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Remarks

In view of the above amendments and the following discussion, the applicants submit that none of the claims now pending in the application are anticipated under the provisions of 35 U. S. C. § 102, or obvious under the provisions of 35 U. S. C. § 103. Thus, the applicants believe that all of these claims are in allowable form.

REJECTIONS**A. 35 U. S. C. § 102****1. Claims 1-6 and 8 are not anticipated by Takagi**

Claims 1-6 and 8 stand rejected under 35 U. S. C. § 102(b) as being anticipated by Takagi (U. S. Patent 5,406,168 issued April 11, 1995). The applicants submit that these claims are not anticipated by this reference.

Claim 1 is directed to a tension mask assembly for a cathode ray tube (see, specification at page 1, lines 5-7). The tension mask assembly 30 is disposed between a screen 28 and an electron gun 32 of the cathode ray tube 10 (see, FIG. 1 and the specification at page 3, line 27 to page 4, line 9). The tension mask assembly 30 includes a mask frame 300 having a first pair of frame members 312A, 312B disposed at opposite ends of the mask frame 300 (see, FIG. 3 and the specification at page 4, line 33 to page 5, line 4). A plurality of mask strands 44 are affixed to the first pair of frame members 312A, 312B to produce tension in the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 4-6). A third member 313A supports the plurality of mask strands 44 in a region between the first pair of frame members 312A, 312B (see, FIGS. 3-6 and the specification at page 7, lines 10-22). The third member 313A extends from the electron gun side of the of the mask frame 300 toward the screen 28 to contact a first intermediate region of the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 11-30). Each

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of the mask strands 44 is attached to the third member 313A with an adhesive (see, specification at page 2, lines 23-24).

Takagi describes a color selection grid for a color picture tube (see, Takagi at column 1, lines 7-10). The color selection grid 111 includes a pair of side frame portions 101, 102 arranged to oppose each other (see, Takagi at FIG. 1A and column 2, lines 25-27). Grid elements 105, constituted of ribbon-like metal strips, are stretched between the side frame portions 101, 102 (see, Takagi at FIG. 1A and column 2, lines 30-38). A belt-like metal plate 309 is arranged to contact the grid elements 105 between the side frame portions 101, 102 (see, Takagi at FIG. 4 and column 3, lines 40-46).

Takagi does not describe or suggest a tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Takagi only teaches a color selection grid having grid elements stretched between opposed side frame portions with a belt-like metal plate contacting the grid elements between the side frame portions. Since Takagi does not teach a tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 1 is patentable over Takagi.

Claims 2-6 and 8 depend directly, or indirectly, from claim 1. In view of such dependence on claim 1, the applicants submit that claims 2-6 and 8 are also patentable over Takagi.

B. 35 U. S. C. § 103

1. Claim 7 is not obvious over Takagi in view of Nosker et al.

Claim 7 stands rejected under 35 U. S. C. § 103(a) as being obvious over Takagi (U. S. Patent 5,406,168 issued April 11, 1995) in view of Nosker et al.

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(U. S. Patent 5,613,889 issued March 25, 1997). The applicants submit that this claim is not rendered obvious by the combination of these references.

Claim 7 depends from claim 1 and is directed to a tension mask assembly for a cathode ray tube (see, specification at page 1, lines 5-7). The tension mask assembly 30 is disposed between a screen 28 and an electron gun 32 of the cathode ray tube 10 (see, FIG. 1 and the specification at page 3, line 27 to page 4, line 9). The tension mask assembly 30 includes a mask frame 300 having a first pair of frame members 312A, 312B disposed at opposite ends of the mask frame 300 (see, FIG. 3 and the specification at page 4, line 33 to page 5, line 4). A plurality of mask strands, 44 are affixed to the first pair of frame members 312A, 312B to produce tension in the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 4-6). A third member 313A supports the plurality of mask strands 44 in a region between the first pair of frame members 312A, 312B (see, FIGS. 3-6 and the specification at page 7, lines 10-22). The third member 313A extends from the electron gun side of the mask frame 300 toward the screen 28 to contact the first intermediate region of the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 11-30). Each of the mask strands 44 is attached to the third member 313A with an adhesive (see, specification at page 2, lines 23-24). A second pair of frame members 302, 304 are affixed to the first pair of frame members 312A, 312B to form a rectangular mask frame 300 (see, FIG. 3 and the specification at page 4, lines 36-37).

Takagi describes a color selection grid for a color picture tube (see, Takagi at column 1, lines 7-10). The color selection grid 111 includes a pair of side frame portions 101, 102 arranged to oppose each other (see, Takagi at FIG. 1A and column 2, lines 25-27). Grid elements 105, constituted of ribbon-like metal strips, are stretched between the side frame portions 101, 102 (see, Takagi at FIG. 1A and column 2, lines 30-38). A belt-like metal plate 309 is arranged to contact the grid elements 105 between the side frame portions 101, 102 (see, Takagi at FIG. 4 and column 3, lines 40-46).

Takagi does not describe or suggest a rectangular tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where

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each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Takagi only teaches a color selection grid having grid elements stretched between opposed side frame portions with a belt-like metal plate contacting the grid elements between the side frame portions. Since Takagi does not teach a rectangular tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 7 is patentable over Takagi.

Nosker et al. describes a tensioned focus mask for a cathode-ray tube (see, Nosker et al. at column 1, lines 4-6). The tensioned focus mask 30 has a rectangular shape (see, Nosker et al. at FIG. 2 and column 2, lines 50-62).

Nosker et al. does not describe or suggest a rectangular tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Nosker et al. only teaches a rectangular tensioned focus mask. Since Nosker et al. does not teach a rectangular tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 7 is patentable over Nosker et al.

Furthermore, since Takagi only teaches a color selection grid having grid elements stretched between opposed side frame portions with a belt-like metal plate contacting the grid elements between the side frame portions and Nosker et al. only teaches a rectangular tensioned focus mask, the combination of these references does not describe or suggest applicants invention recited in claim 7. In particular, claim 7 recites a rectangular tension focus mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Thus, claim 7 is patentable over Takagi in view of Nosker et al.

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2. Claim 1 is not obvious over Takagi in view of Kaplan et al.

Claim 9 stands rejected under 35 U. S. C § 103(a) as being obvious over Takagi (U. S. Patent 5,406,168 issued April 11, 1995) in view of Kaplan et al. (U. S. Patent 5,111,106 issued May 5, 1992). In this response, claim 9 has been cancelled and claim 1 has been amended to incorporate the limitation of claim 9. As such, the applicants submit that claim 1 is not rendered obvious by the combination of these references.

Claim 1 is directed to a tension mask assembly for a cathode ray tube (see, specification at page 1, lines 5-7). The tension mask assembly 30 is disposed between a screen 28 and an electron gun 32 of the cathode ray tube 10 (see, FIG. 1 and the specification at page 3, line 37 to page 4, line 9). The tension mask assembly 30 includes a mask frame 300 having a first pair of frame members 312A, 312B disposed at opposite ends of the mask frame 300 (see, FIG. 3 and the specification at page 4, line 33, to page 5, line 4). A plurality of mask strands 44 are affixed to the first pair of frame members 312A, 312B to produce tension in the mask strands 44 (see, FIG 3-6 and the specification at page 5, lines 4-6). A third member 313A supports the plurality of mask strands 44 in a region between the first pair of frame members 312A, 312B (see, FIGS. 3-6 and the specification at page 7, lines 10-22). The third member 313A extends from the electron gun side of the mask frame 300 toward the screen 28 to contact a first intermediate region of the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 11-30). Each of the mask strands 44 is attached to the third member 313A with an adhesive (see, specification at page 2, lines 23-24).

Takagi describes a color selection grid for a color picture tube (see, Takagi at column 1, lines 7-10). The color selection grid 111 includes a pair of side frame portions 101, 102 arranged to oppose each other (see, Takagi at FIG. 1A and column 2, lines 25-27). Grid elements 105, constituted of ribbon-like metal strips, are stretched between the side frame portions 101, 102 (see, Takagi at FIG. 1A and column 2, lines 30-38). A belt-like metal plate 309 is arranged to contact the grid

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elements 105 between the side frame portions 101, 102 (see, Takagi at FIG. 4 and column 3, lines 40-46).

Takagi does not describe or suggest a tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Takagi only teaches a color selection grid having grid elements stretched between opposed side frame portions with a belt-like metal plate contacting the grid elements between the side frame portions. Since Takagi does not teach a tension focus mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 1 is patentable over Takagi.

Kaplan et al. describes a foil tension mask of a cathode ray tube (see, Kaplan et al. at column 2, lines 23-25). The foil tension mask 28 is stretched across two opposed support structures 26, 27 (see, Kaplan et al. at FIG. 2 and column 4, lines 51-53). A first portion of the foil tension mask 28, comprising every other metal strip, is welded to outer portions 26a, 27a of the opposed support structures 26, 27 (see, Kaplan et al. at FIG. 3b and column 4, lines 53-55). A second portion of the foil tension mask 28, comprising metal strips not in the first portion, is attached to inner portions 26b, 27b of the opposed support structures 26, 27 with beads of solder glass (see, Kaplan et al. at FIG. 3b and column 4, lines 55-58).

Kaplan et al. does not describe or suggest a tension mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Kaplan et al. teaches a completely different arrangement where first portions of a foil tension mask are welded to outer portions of an opposed pair of support structures and second portions of the foil tension mask are attached to inner portions of the opposed pair of support structures with beads of solder glass. Since Kaplan et al. does not teach a tension focus mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an

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adhesive, claim 1 is patentable over Kaplan et al.

Furthermore, since Takagi only teaches a color selection grid having grid elements stretched between opposed side frame portions with a belt-like metal plate contacting the grid elements between the side frame portions and Kaplan et al. teaches an arrangement where first portions of a foil tension mask are welded to outer portions of an opposed pair of support structures and second portions of the foil tension mask are attached to inner portions of the opposed pair of support structures with beads of solder glass, the combination of these references does not describe or suggest applicants invention recited in claim 1. In particular, claim 1 recites a tension focus mask including a plurality of mask strands affixed to a first pair of opposed frame members where each mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Thus, claim 1 is patentable over Takagi and Kaplan et al.

3. Claims 10-12 are not obvious over Takagi in view of Kuwana et al.

Claims 10-12 stand rejected under 35 U. S. C. § 103(a) as being obvious over Takagi (U. S. Patent 5,406,168 issued April 11, 1995) in view of Kuwana et al (U. S. Patent 6,111,349 issued August 29, 2000). The applicants submit that claims 10-12 are not rendered obvious by the combination of these references.

Claim 10 is directed to a method of forming a tension mask assembly for a cathode ray tube (see, specification at page 1, lines 5-7). The tension mask assembly 30 includes a mask frame 300 having a first pair of frame members 312A, 312B disposed at opposite ends of the mask frame 300 (see, FIG. 3 and the specification at page 4, line 33 to page 5, line 4). A plurality of etched mask strands 44, are affixed to the first pair of frame members 312A, 312B to produce tension in the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 4-6). A third member 313A supports the plurality of etched mask strands 44 in a region between the first pair of frame members 312A, 312B (see, FIGS. 3-6 and the specification at page 7, lines 10-22). The third member 313A extends from the electron gun side of the mask frame 300 toward the screen 28 to contact a first

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intermediate region of the etched mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 11-30). The etched mask strands are attached to the third member 313A with an adhesive (see, specification at page 2, lines 23-24).

Takagi describes a color selection grid for a color picture tube (see, Takagi at column 1, lines 7-10). The color selection grid 111 includes a pair of side frame portions 101, 102 arranged to oppose each other (see, Takagi at FIG. 1A and column 2, lines 25-27). Grid elements 105, constituted of ribbon-like metal strips, are stretched between the side frame portions 101, 102 (see, Takagi at FIG. 1A and column 2, lines 30-38). A belt-like metal plate 309 is arranged to contact the grid elements 105 between the side frame portions 101, 102 (see, Takagi at FIG. 4 and column 3, lines 40-46).

Takagi does not describe or suggest a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Takagi only teaches a color selection grid having ribbon-like metal strips stretched between opposed side frame portions with a belt-like metal plate contacting the ribbon-like metal strips between the side frame portions. Since Takagi does not teach a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 10 is patentable over Takagi.

Kuwana et al. describes a tensioned aperture grille for a cathode ray tube (see, Kuwana et al. at column 3, lines 3-8). The tensioned aperture grille 14 includes an electrode 33 having slits 64 etched therethrough (see, Kuwana et al. at FIG. 2 and column 2, lines 5-10).

Kuwana et al. does not describe or suggest a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Kuwana et al. only teaches use of a tensioned aperture grille including an electrode having slits

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etched therethrough. Since Kuwana et al. does not teach a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame member, with an adhesive, claim 10 is patentable over Kuwana et al.

Furthermore, since Takagi only teaches a color selection grid having ribbon-like metal strips stretched between opposed side frame portions with a belt-like metal plate contacting the ribbon-like metal strips between the side frame portions and Kuwana et al. only teaches a tensioned aperture grille including an electrode having slits etched therethrough, the combination of these references does not describe or suggest applicants invention recited in claim 10. In particular, claim 10 recites a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Thus, claim 10 is patentable over Takagi in view of Kuwana et al.

Claims 11-12 depend directly from claim 10. In view of such dependence on claim 10, the applicants submit that claims 11-12 are also patentable over Takagi in view of Kuwana et al.

4. Claim 13 is not obvious over Takagi in view of Kuwana et al. and further in view of Makita et al.

Claim 13 stands rejected under 35 U. S. C. § 103(a) as being obvious over Takagi (U. S. Patent 5,406,168 issued April 11, 1995) in view of Kuwana et al. (U. S. Patent 6,111,349 issued August 29, 2000) and further in view of Makita et al. (U. S. Patent 4,857,027 issued August 15, 1989). The applicants submit that claim 13 is not rendered obvious by the combination of these references.

Claim 13 depends from claim 10 and is directed to a method of forming a tension mask assembly for a cathode ray tube (see, specification at page 1, lines 5-7). The tension mask assembly 30 includes a mask frame 300 having a first pair of frame members 312A, 312B disposed at opposite ends of the mask frame 300 (see,

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FIG. 3 and the specification at page 4, line 33 to page 5, line 4). A plurality of etched mask strands 44, are affixed to the first pair of frame members 312A, 312B to produce tension in the mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 4-6). After affixing the etched mask strands 44, such strands 44 are trimmed flush with an outer portion of the frame members 312A, 312B (see, FIG. 2). A third member 313A supports the plurality of etched mask strands 44 in a region between the first pair of frame members 312A, 312B (see, FIGS. 3-6 and the specification at page 7, lines 10-22). The third member 313A extends from the electron gun side of the mask frame 300 toward the screen 28 to contact a first intermediate region of the etched mask strands 44 (see, FIGS. 3-6 and the specification at page 5, lines 11-30). The etched mask strands 44 are attached to the third member 313A with an adhesive (see, specification at page 2, lines 23-24).

Takagi describes a color selection grid for a color picture tube (see, Takagi at column 1, lines 7-10). The color selection grid 111 includes a pair of side frame portions 101, 102 arranged to oppose each other (see, Takagi at FIG. 1A and column 2, lines 25-27). Grid elements 105, constituted of ribbon-like metal strips, are stretched between the side frame portions 101, 102 (see, Takagi at FIG. 1A and column 2, lines 30-38). A belt-like metal plate 309 is arranged to contact the grid elements 105 between the side frame portions 101, 102 (see, Takagi at FIG. 4 and column 3, lines 40-46).

Takagi does not describe or suggest a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Takagi only teaches a color selection grid having ribbon-like metal strips stretched between opposed side frame portions with a belt-like metal plate contacting the ribbon-like metal strips between such side frame portions. Since Takagi does not teach a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 13 is patentable over Takagi.

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Kuwana et al. describes a tensioned aperture grille for a cathode ray tube (see, Kuwana et al. at column 3, lines 3-8). The tensioned aperture grille 14 includes an electrode 33 having slits 64 etched therethrough (see, Kuwana et al. at FIG. 2 and column 2, lines 5-10).

Kuwana et al. does not describe or suggest a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Kuwana et al. only teaches use of a tensioned aperture grille including an electrode having slits etched therethrough. Since Kuwana et al. does not teach a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 13 is patentable over Kuwana et al.

Makita et al. describes a color screen for a cathode ray tube (Makita et al. at column 1, lines 8-10). The color screen includes an aperture grill member 21 welded to supporting members 1, 2 of a frame 5 (see, Makita et al. at FIG. 1 and column 4, lines 51-61). Peripheral portions 8 of the aperture grill member 21 are sheared flush with the outer side-walls of supporting members 1, 2 (see, Makita et al. at FIG. 1 and column 5, lines 8-15).

Makita et al. does not describe or suggest a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Rather, Makita et al. only teaches a color screen having peripheral portions of an aperture grill member sheared flush with outer walls of a frame. Since Makita et al. does not teach a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive, claim 13 is patentable over Makita et al.

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Furthermore, since Takagi only teaches a color selection grid having ribbon-like metal strips stretched between opposed side frame portions with a belt-like metal plate contacting the ribbon-like metal strips between the side frame portions, Kuwana et al. only teaches a tensioned aperture grille including an electrode having slits etched therethrough and Makita et al. only teaches a color screen having peripheral portions of an aperture grill member sheared flush with outer walls of a frame, the combination of these references does not describe or suggest applicants invention recited in claim 13. In particular, claim 13 recites a method of forming a tension mask including a plurality of etched mask strands affixed to a first pair of opposed frame members where each etched mask strand is also attached to a third member, disposed between such frame members, with an adhesive. Thus, claim 13 is patentable over Takagi in view of Kuwana et al. and further in view of Makita et al.

CONCLUSION

Thus, the applicants submit that none of the claims, presently in the application are anticipated under the provisions of 35 U. S. C. § 102, or obvious under the provisions of 35 U. S. C. § 103. Consequently, the applicants believe that all of the claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

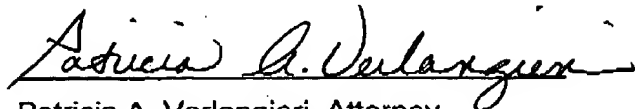
If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is

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requested that the Examiner telephone Ms. Patricia A. Verlangieri, at (609) 734-6867, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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